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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/755,702	01/12/2004	Michael Krebs	HENK-0154/H5344	3428

38857 7590 03/08/2007  
WOODCOCK WASHBURN LLP  
CIRA CENTRE, 12TH FLOOR  
2929 ARCH STREET  
PHILADELPHIA, PA 19104-2891

EXAMINER
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NILAND, PATRICK DENNIS

ART UNIT	PAPER NUMBER
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1714

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	03/08/2007	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

# Office Action Summary

Application No.

10/755,702

Applicant(s)

KREBS, MICHAEL

Examiner

Patrick D. Niland

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 18 January 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1, 2, 4-18, 21, 24 and 28-33 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-2, 4-18, 21, 24, and 28-33 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 1/18/07 has been entered.

The amendment of 11/27/06 has been entered. Claims 1-2, 4-18, 21, 24, and 28-33 are pending.

2. Claims 21, 24, and 28-31 are objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form.

A. Dependent claims are required by rule to further limit the claims from which they depend. Claim 1 recites "consisting" which excludes other process steps from this claim. Claims 21, 24, and 28-31 add additional process steps to the claims from which they depend, which does not further limit the claims from which they depend and is inconsistent with the legal definition of "consisting" used in claim 1, which excludes other process steps. Claims 24 and 29-30 also broaden the NCO:OH ratio of claim 1 and are further objected to as not further limiting claim 1 in this regard.

3. Claims 21, 24, and 28-31 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

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A. It is unclear how the additional steps of claims 21, 24, and 28-31 further limit claim 1, from which these claims ultimately depend. Claim 1 recites “consisting” which excludes other process steps from this claim. Claims 21, 24, and 28-31 add additional process steps to the claims from which they depend, which does not further limit the claims from which they depend and is inconsistent with the legal definition of “consisting” used in claim 1, which excludes other process steps. Claims 24 and 29-30 also broaden the NCO:OH ratio of claim 1 and are further objected to as not further limiting claim 1 in this regard. These claims raise an issue of what is intended by “consisting” in claim 1 and what the scopes of the instant claims really are.

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1-2, 4-18, 21, 24, and 28-33 are rejected under 35 U.S.C. 102(b) as being anticipated by WO 00/05290 Bolte et al., translation supplied by applicant referenced.

Bolte discloses a polyurethane prepolymer made by the instantly claimed processes at page 5, lines 3-7 which falls within the scope of the instant claim 12 when combined with page 17, lines 1-15; page 6, lines 10-30, which encompasses the instantly claimed viscosities of claim 2 considering viscosity will go down as temperature goes up and considering the common

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molecular weights of the instant claims and the prior art noted below which is indicative of viscosity by definition of viscosity average molecular weight; page 7, lines 5-9 which is expected to give the parameter of the instant claim 2 inherently based on the definition of viscosity average molecular weight and the fact that the other requirements of claim 2 are met and lines 10-30; page 8, lines 1-30, particularly 21-30 which broadly encompasses the instantly claimed process of making a polyurethane with free isocyanate groups; page 9, lines 1-5, which encompasses the instantly claimed NCO:OH ratio and this stage of the method of the reference reads on the method steps of the instant claim 1, which are not prohibited from later reactions in other stages as is clear from the instant claims which later react the prepolymer with other components; page 10, lines 1-30, particularly 6-8, which encompasses the instantly claimed NCO:OH ratios, lines 9-30, which encompasses the instantly claimed diols and their molecular weights as do page 11, lines 1-30, particularly 6-10; page 12, lines 1-30, particularly 2-3; page 13, lines 1-30, particularly 1; page 14, lines 1-19, of which these polyols fall within those of the instant claims 1, 4, 10, 14-17, 21, 24, and 28-31 (note that the mixtures encompass the "additional" polyols or polymeric compounds of claims 21 and 24); page 14, lines 20-30; page 15, line 7, which discloses the instantly claimed diisocyanate with sufficient specificity so as to anticipate its use, which is particularly emphasized because it is also an assymetrical diisocyanate as is clearly preferred for use at lines 15-17 and 18-22; page 19, lines 22-27; page 20, lines 10-15 which falls within the scope of the NCO:OH ratios of the instant claims 1, 8, 18, 24, and 29-30, lines 17-30 which falls within the scope of the instant claims 11 and 21; page 21, lines 1-30 particularly 7-26 which falls within the scope of the instant claims 5-7, 9, and 21; page 25, lines 4-30 which encompasses the instantly claimed amounts of monomeric isocyanates also;

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page 26, lines 1-12 and 21-26; and the remainder of the document. The second stages disclosed throughout the above cited sections fall within the scope of the instant claims requiring further reaction of the prepolymer with further components including the instantly claimed NCO:OH ratios for these method steps. The above discussed parameters are the same as claim 1 and therefore must give the limitation of claim 13 and 32-33 inherently considering the molecular weights of the polyurethanes and their NCO content based on the ratios of polyols to polyisocyanates used. Applicant's argument regarding free NCO groups is noted but the reference teaches the preparation of prepolymers having NCO groups throughout the disclosure of Bolte, e.g. page 6, lines 17-21, page 7, lines 5, 10-16 and 23-30 with particular emphasis on lines 27-30; page 8, lines 1-2, particularly lines 21-25 noting "at least equimolar" as it is understood that an excess is required to give NCO terminal groups but too much excess will give too much free monomer, which Bolte clearly doesn't desire and the stoichiometry required of the paragraph bridging pages 7-8 indicates clearly that no or little free monomeric isocyanate should remain. It is noted that the instant claims recite no closed language and therefore include the additional steps of the reference. It is also noted that the claims of the 112 above, e.g. 19-20 and 23-24 appear to encompass further reacting the isocyanate terminated component with further active H groups which is the additional reaction step of Bolte. In any event, the intermediate product of Bolte which is the reaction product of polyisocyanates of the instant claims, polyol, the instantly claimed NCO:OH ratio and which has free NCO groups, i.e. prepolymer, falls within the scope of the instant claims as does the further reaction of this intermediate with further polyol. The remainder of the reference cited above further clarifies these points. The applicant's

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arguments are not commensurate in scope with the instant claims and the proper reading of the disclosure of Bolte. This rejection is therefore maintained.

7. Claims 1-2, 4-18, 21, 24, and 28-33 are rejected under 35 U.S.C. 103(a) as being unpatentable over WO 00/05290 Bolte et al., translation supplied by applicant referenced.

Bolte discloses a polyurethane prepolymer made by the instantly claimed processes at page 5, lines 3-7 which falls within the scope of the instant claim 12 when combined with page 17, lines 1-15; page 6, lines 10-30, which encompasses the instantly claimed viscosities of claim 2 considering viscosity will go down as temperature goes up and considering the common molecular weights of the instant claims and the prior art noted below which is indicative of viscosity by definition of viscosity average molecular weight; page 7, lines 5-9 which is expected to give the parameter of the instant claim 2 inherently based on the definition of viscosity average molecular weight and the fact that the other requirements of claim 2 are met and lines 10-30; page 8, lines 1-30, particularly 21-30 which broadly encompasses the instantly claimed process of making a polyurethane with free isocyanate groups; page 9, lines 1-5, which encompasses the instantly claimed NCO:OH ratio and this stage of the method of the reference reads on the method steps of the instant claim 1, which are not prohibited from later reactions in other stages as is clear from the instant claims which later react the prepolymer with other components; page 10, lines 1-30, particularly 6-8, which encompasses the instantly claimed NCO:OH ratios, lines 9-30, which encompasses the instantly claimed diols and their molecular weights as do page 11, lines 1-30, particularly 6-10; page 12, lines 1-30, particularly 2-3; page 13, lines 1-30, particularly 1; page 14, lines 1-19, of which these polyols fall within those of the instant claims 1, 4, 10, 14-17, 21, 24, and 28-31 (note that the mixtures encompass the

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“additional” polyols or polymeric compounds of claims 21 and 24); page 14, lines 20-30; page 15, line 7, which discloses the instantly claimed diisocyanate with sufficient specificity so as to anticipate its use, which is particularly emphasized because it is also an assymetrical diisocyanate as is clearly preferred for use at lines 15-17 and 18-22; page 19, lines 22-27; page 20, lines 10-15 which falls within the scope of the NCO:OH ratios of the instant claims 1, 8, 18, 24, and 29-30, lines 17-30 which falls within the scope of the instant claims 11 and 21; page 21, lines 1-30 particularly 7-26 which falls within the scope of the instant claims 5-7, 9, and 21; page 25, lines 4-30 which encompasses the instantly claimed amounts of monomeric isocyanates also; page 26, lines 1-12 and 21-26; and the remainder of the document. The second stages disclosed throughout the above cited sections fall within the scope of the instant claims requiring further reaction of the prepolymer with further components including the instantly claimed NCO:OH ratios for these method steps. The above discussed parameters are the same as claim 1 and therefore must give the limitation of claim 13 and 32-33 inherently considering the molecular weights of the polyurethanes and their NCO content based on the ratios of polyols to polyisocyanates used. Applicant’s argument regarding free NCO groups is noted but the reference teaches the preparation of prepolymers having NCO groups throughout the disclosure of Bolte, e.g. page 6, lines 17-21, page 7, lines 5, 10-16 and 23-30 with particular emphasis on lines 27-30; page 8, lines 1-2, particularly lines 21-25 noting “at least equimolar” as it is understood that an excess is required to give NCO terminal groups but too much excess will give too much free monomer, which Bolte clearly doesn’t desire and the stoichiometry required of the paragraph bridging pages 7-8 indicates clearly that no or little free monomeric isocyanate should remain. It is noted that the instant claims recite no closed language and therefore include the



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additional steps of the reference. It is also noted that the claims of the 112 above, e.g. 19-20 and 23-24 appear to encompass further reacting the isocyanate terminated component with further active H groups which is the additional reaction step of Bolte. In any event, the intermediate product of Bolte which is the reaction product of polyisocyanates of the instant claims, polyol, the instantly claimed NCO:OH ratio and which has free NCO groups, i.e. prepolymer, falls within the scope of the instant claims as does the further reaction of this intermediate with further polyol. The remainder of the reference cited above further clarifies these points. The applicant's arguments are not commensurate in scope with the instant claims and the proper reading of the disclosure of Bolte. This rejection is therefore maintained.

It would have been obvious to one of ordinary skill in the art at the time of the instant invention to use the instantly claimed methods and ingredient combinations to make the prepolymer and compositions of the instant claims because they are encompassed by the reference and would have been expected to give the properties disclosed by Bolte. There is no showing of unexpected results stemming from any differences between the cited prior art and the instant claims in a manner commensurate in scope with the instant claims and the cited prior art particularly with regard to the wide range of polyols encompassed by the instant claims and the cited prior art, their molecular weights, the NCO:OH ratios encompassed by the instant claims and the cited prior art, and the broad range of reaction conditions encompassed by the instant claims and the cited prior art which are expected to widely vary the properties of the polyurethanes made.

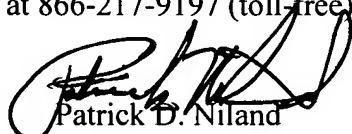
This rejection is maintained for the reasons cited herein.

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8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Patrick D. Niland whose telephone number is 571-272-1121. The examiner can normally be reached on Monday to Thursday from 10 to 5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vasu Jagannathan, can be reached on 571-272-1119. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll free).

  
Patrick D. Niland  
Primary Examiner  
Art Unit 1714